

ABSTRACT

A distal segment of a catheter shaft is adapted to be positioned against tissue in a biological organ. The distal segment has a tissue-contacting area intended to contact the tissue. One or more pressure sensors positioned within the tissue-contacting area provide pressure data indicative of the pressure exerted on the distal segment. The distal segment carries one or more electrodes and the pressure sensors are located either on an electrode or on the catheter shaft near an electrode. The pressure sensors provide pressure data to a processor that analyzes the data to determine if the tissue-contacting area of the distal segment is contacting the tissue. The pressure sensors may also provide temperature data indicative of the temperature at the sensor. A flow sensor, located opposite the pressure sensor on the shaft, provides data related to the flow rate of fluid through the organ.